

SWAT Goes International

The Mekong River Commission used SWAT to help in the assessment of the Mekong River Basin, in southeast Asia.



International researchers and program managers in 90 countries around the world use the Soil and Water Assessment Tool (SWAT) model. Germany, the first country interested in SWAT, uses it to model its large watersheds, said Dr. Raghavan Srinivasan, director of the Spatial Sciences Laboratory and professor in the Departments of Ecosystem Science and Management, and Biological and Agricultural Engineering. Once the European Union formed, it started looking at water issues and used SWAT to help assess watersheds and transboundary water issues of the 15-country union, increasing the use of the modeling tool throughout Europe.

The U.S. Agency for International Development funded a research project for the Kenyan government in which researchers applied the SWAT model to a portion of the Tana River below Mt. Kenya to determine the effects of reforestation policies on a reservoir.

Researchers used SWAT to assess a four-country area in the Mekong River Basin in Southeast Asia, which at 675,000 square kilometers is the largest river basin outside of the United States modeled. Other international projects using SWAT include assessing irrigation management in a Pakistani river basin and developing a conservation assessment for a 25-country area in Europe much like USDA's Natural Resources Conservation Service's Conservation Effects Assessment Project or CEAP.

A research group in Zurich, Switzerland, is developing a global CEAP-like assessment focusing on water

supplies and water issues. "They are currently running SWAT across the African continent with plans of gearing up to global," said Dr. Jeff Arnold, research leader and agricultural engineer for the Grassland Soil and Water Research Laboratory.

To answer this expanding interest worldwide, the research team organized the first international SWAT conference in 2001 in Germany with 35 participants from 16 countries and five continents presenting 20 papers.

"This conference gave us a platform to launch SWAT to a large audience," Srinivasan said.

In 2003, the conference in Italy attracted 65 scientists from 23 countries, presenting 40 papers, and in 2005, the Switzerland conference had 105 participants with about 70 papers presented from 32 countries. The 2007 conference in the Netherlands attracted more than 140 participants and about 90 papers. The 2009 international conference is planned in England. Beginning in 2008, regional conferences are planned with the first one in China, in January 2009 in Chang Mai, Thailand, and the 2010 conference in New Delhi, India.

Srinivasan said researchers from every continent except Antarctica attend the international meetings. "They have been a huge success," he said. "Every conference we have about doubled the number of papers and participants."

